

This unique introduction to the growing field of microfluidics applied to genomics provides an overview of the latest technologies and emphasizes its potential in answering important biological questions.

The book starts with key ideas in molecular biology, developmental biology and microtechnology before going on to cover the specifics of single cell analysis and microfluidic devices for single cell molecular analysis.

Review chapters discuss the state-of-the-art and will prove invaluable to all those planning to develop microdevices for molecular analysis of single cells. Methods allowing complete analysis of gene expression in the single cell are stressed - as opposed to the more commonly used techniques that allow analysis of only a few genes at a time.

As pioneers in the field, the authors understand how critical it is for a physicist to understand the biological issues and questions related to single cell analysis, as well for biologists to understand what microfluidics is all about. Aimed predominantly at graduate students, this book will also be of significant interest to scientists working in or affiliated with this field.

Images courtesy of Folch Lab Bioengineering, University of Washington. For more information on the science behind the cover images, please visit <http://faculty.washington.edu/afolch/>.

RSC Nanoscience & Nanotechnology

Series Editors: Sir Harry Kroto, *University of Sussex, UK*

Professor Sir Harry Kroto, *University of Manchester, UK*

9781847559111 生物科学 (ZD-N-BPF)

RMB: 1045.00

2010/11/

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ISBN 978-1-84755-911-1



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